SANTA CRUZ BIOTECHNOLOGY, INC.

NSD1 (N-20): sc-32475

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The nuclear receptor-binding SET domain-containing protein 1 (NSD1) belongs to a family of proteins which have all been implicated in human malignancy. The protein family includes NSD2 and NSD3, both of which show 70-75% sequence identity with NSD1 but contribute substantially less to overgrowth phenotypes. Defects and microdeletions of the NSD1 gene are involved in Sotos syndrome, childhood acute myeloid leukemia (AML), Weaver syndrome and Beckwith-Wiedemann syndrome (BWS). The protein functions as a transcriptional intermediary factor capable of influencing transcription, either negatively or positively, depending on the cellular context. NSD1 is a nuclear protein expressed in brain, muscle, spleen, thymus, kidney and, to a lesser extent, lung.

REFERENCES

1. Kurotaki, N., et al. 2001. Molecular characterization of NSD1, a human homologue of the mouse NSD1 gene. Gene 279: 197-204.
2. Rayasam, G.V., et al. 2003. NSD1 is essential for early post-implantation development and has a catalytically active SET domain. EMBO J. 22: 3153-3163.
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4. Al-Mulla, N., et al. 2004. Cancer in Sotos syndrome: report of a patient with acute myelocytic leukemia and review of the literature. J. Pediatr. Hematol. Oncol. 26: 204-208.
5. Baujat, G., et al. 2004. Paradoxical NSD1 mutations in Beckwith-Wiedemann syndrome and 11p15 anomalies in Sotos syndrome. Am. J. Hum. Genet. 74: 715-720.
6. Cecconi, M., et al. 2005. Mutation analysis of the NSD1 gene in a group of 59 patients with congenital overgrowth. Am. J. Med. Genet. A 134: 247-253.
7. Douglas, J., et al. 2005. Evaluation of NSD2 and NSD3 in overgrowth syndromes. Eur. J. Hum. Genet. 13: 150-153.
8. Tatton-Brown, K., et al. 2005. Multiple mechanisms are implicated in the generation of 5q35 microdeletions in Sotos syndrome. J. Med. Genet. 42: 307-313.

CHROMOSOMAL LOCATION

Genetic locus: NSD1 (human) mapping to 5q35.2; Nsd1 (mouse) mapping to 13 B1.

SOURCE

NSD1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of NSD1 of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-32475 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NSD1 (N-20) is recommended for detection of NSD1 isoforms 1 and 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NSD1 (N-20) is also recommended for detection of NSD1 isoforms 1 and 3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for NSD1 siRNA (h): sc-45612, NSD1 siRNA (m): sc-45613, NSD1 shRNA Plasmid (h): sc-45612-SH, NSD1 shRNA Plasmid (m): sc-45613-SH, NSD1 shRNA (h) Lentiviral Particles: sc-45612-V and NSD1 shRNA (m) Lentiviral Particles: sc-45613-V.

Molecular Weight of NSD1: 284 kDa.

Positive Controls: Human uterus extract: sc-363784.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.